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JOSHUA LEDERBERG
PRESIDENT

December 22, 1989

Dr. John A. Moore
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Dear Johnny:

As I think I may have mentioned in some of our correspondence, I gave a lecture at Woods Hole during summer 1988 on the idea of the linkage map: very appropriately since it was the Morgan Sturtevant Memorial Lecture. You may also have surmised that I have borrowed very heavily from your work for the earlier part of my talk.

The MBL is now preparing to publish those talks and I am writing to ask you a considerable favor to help us get out with the book: that is with regard to the figures. I am enclosing a number of the ones that I used as transparencies in my discussion and what I would like to ask of you is whether -- especially for the photographs -- you could provide prints that would be more suitable for including in the manuscript for publication. We would also like to request your approval for the reprinting, which will assist the Harvard University Press when they go through the systematic legal form.

With our very best wishes for the season and for the New Year,

Yours sincerely,

Joshua Lederberg

Encls. 5 transparencies
P273 plus brochure (Occ. Ref.)

FIG. 29. Thomas Hunt Morgan in the Fly Room. Taken about 1917 by Calvin Bridges.

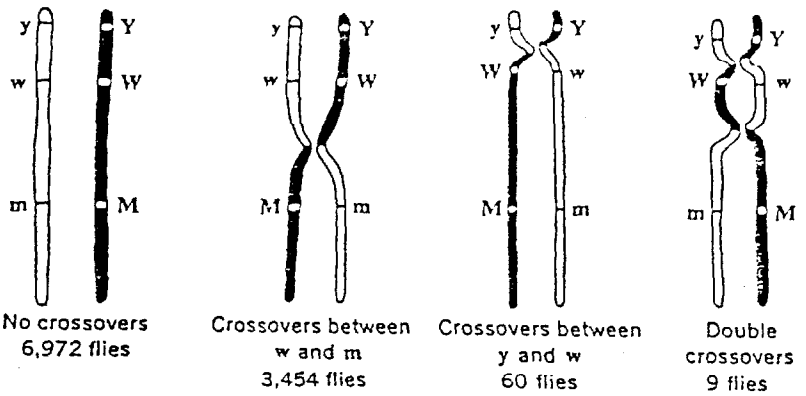


FIG. 38. Sturtevant's experiment. See text for details.

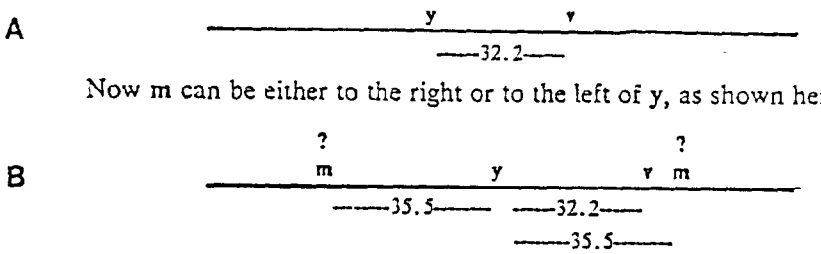
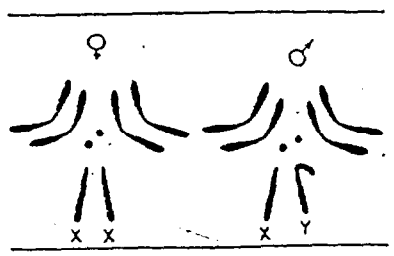


FIG. 37. Sturtevant's method for determining the linear order of gene loci. A shows y and v separated by a distance equal to the percentage of crossing-over between them. B shows the percentage of crossing-over between y and m and the impossibility of knowing whether m is on the side with v or not. C shows the relative position of five loci on the X chromosome.



GROUP I

Name	Region Affected
Abnormal	Abdomen
Bar	Eye
Bifid	Venation
Bow	Wing
Cherry	Eye color
Chrome	Body color
Cleft	Venation
Club	Wing
Depressed	Wing
Dotted	Thorax
Eosin	Eye color
Facet	Ommatidia
Forked	Spines
Furrowed	Eye
Fused	Venation
Green	Body color
Jaunty	Wing
Lemon	Body color
Lethals, 13	Die
Miniature	Wing
Notch	Venation
Reduplicated	Eye color
Ruby	Legs
Rudimentary	Wings
Sable	Body color
Shifted	Venation
Short	Wing
Skee	Wing
Spoon	Wing
Spot	Body color
Tan	Antenna
Truncate	Wing
Vermilion	Eye color
White	Eye color
Yellow	Body color

GROUP II

Name	Region Affected
Antlered	Wing
Apterous	Wing
Arc	Wing
Balloon	Venation
Black	Body color
Blistered	Wing
Comma	Thorax mark
Confluent	Venation
Cream II	Eye color
Curved	Wing
Dachs	Legs
Extra vein	Venation
Fringed	Wing
Jaunty	Wing
Limited	Abdominal band
Little crossover	II chromosome
Morula	Ommatidia
Olive	Body color
Plexus	Venation
Purple	Eye color
Speck	Thorax mark
Strap	Wing
Streak	Pattern
Trefoil	Pattern
Truncate	Wing
Vestigial	Wing

GROUP III

Name	Region Affected
Band	Pattern
Beaded	Wing
Cream III	Eye color
Deformed	Eye
Dwarf	Size of body
Ebony	Body color
Giant	Size of body
Kidney	Eye
Low crossing over	III chromosome
Maroon	Eye color
Peach	Eye color
Pink	Eye color
Rough	Eye
Safranin	Eye color
Sepia	Eye color
Sooty	Body color
Spineless	Spines
Spread	Wing
Trident	Pattern
Truncate intensf.	Wing
Whitehead	Pattern
White ocelli	Simple eye

GROUP IV

Name	Region Affected
Bent	Wing
Eyeless	Eye

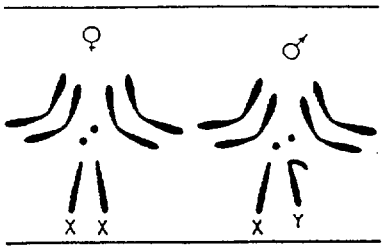


FIG. 35. The linkage groups of *Drosophila melanogaster* as known in 1915. The 85 genes fell into 4 linkage groups. The diagram at the lower left shows the chromosomes in somatic cells. (Morgan, 1915)

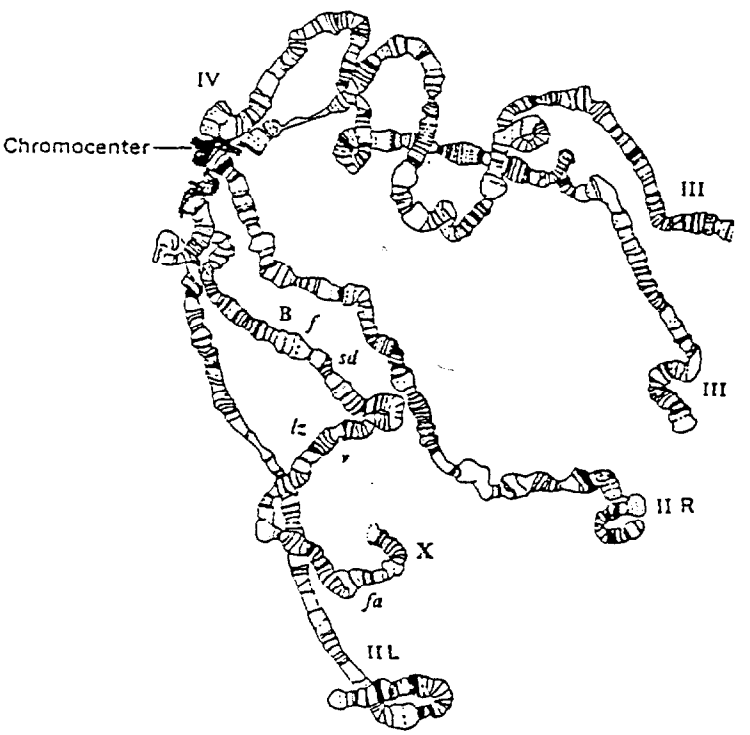


FIG. 45. Painter's first illustration of the salivary gland chromosomes of *Drosophila melanogaster*. The chromosomes are attached to the chromocenter, the X and the fourth by their ends. The two large autosomes are attached by their middles and, hence, have two arms (labelled L and R for left and right, in terms of the linkage maps). The letters show the provisional locations of some of the genes. (Painter, 1934*b*)

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FIG. 46. Photographs of salivary gland chromosomes. The upper one is the so-called Klamath gene arrangement in *Drosophila persimilis*. The lower figure shows the area of the inversion of an individual heterozygous for the Pikes Peak and Standard gene arrangements in *Drosophila pseudoobscura*. The chromosomes at the bottom left are fused but slightly above the inversion begins—it can be seen that the bands do not correspond and pairing is not possible. One of the inverted sections makes a twist and can pair, as in the topmost section. Farther on the two homologues are separate but at the bottom right their loci are the same and pairing is possible again. (Photographs by Betty C. Moore)

J Moore